

CLAIMS

What is claimed is:

1. A method for treating a patient with peripheral vascular disease (PVD) or angina, comprising:

providing a miniature leadless implantable stimulator with at least one electrode and with a size and shape suitable for placement entirely within the spinal column;

implanting the stimulator adjacent to at least one tissue influencing blood circulation, which tissue is at least one of the spinal roots;

providing operating power to the stimulator;

using an external appliance to transmit stimulation parameters to the stimulator;

receiving the stimulation parameters at the stimulator;

generating stimulation pulses in accordance with the stimulation parameters, which pulses are generated by the stimulator;

delivering stimulation pulses via the stimulator to the at least one of the spinal roots influencing blood circulation as a treatment for PVD or angina.

2. The method of Claim 1 further comprising delivering stimulation pulses to at least one of the lumbar dorsal roots, lumbar ventral roots, sacral dorsal roots, and sacral ventral roots as a treatment for PVD of at least one lower limb.

3. The method of Claim 1 further comprising delivering stimulation pulses to at least one of the cervical dorsal roots, cervical ventral roots, thoracic dorsal roots, and thoracic ventral roots as a treatment for PVD of at least one upper limb.

4. The method of Claim 1 further comprising delivering excitatory stimulation pulses to increase peripheral blood circulation as a treatment for PVD.

5. The method of Claim 1 further comprising delivering stimulation pulses to at least one of the cervical dorsal roots, cervical ventral roots, thoracic dorsal roots, and thoracic ventral roots as a treatment for angina.

6. The method of Claim 5 further comprising delivering excitatory stimulation pulses to increase coronary blood circulation as a treatment for angina.

7. The method of claim 1 wherein the implantable stimulator further comprises at least one sensor and the method further comprises sensing at least one condition of the patient.

8. The method of claim 7 wherein the at least one sensed condition is used to adjust the stimulation parameters.

9. The method of claim 8 wherein the parameter adjustment is performed using the at least one external appliance.

10. The method of claim 8 wherein the parameter adjustment is performed by the implantable stimulator.

11. The method of Claim 1 further comprising
providing at least one sensor;
using the at least one sensor to sense a physical condition; and
adjusting the stimulation parameters based on the sensed condition.

12. A method for treating a patient with peripheral vascular disease (PVD) or angina, comprising:

providing a miniature implantable stimulator with at least one electrode and with a size and shape suitable for placement of the entire stimulator within the spinal column;

implanting the stimulator adjacent to at least one tissue influencing blood circulation, which tissue is at least one of the spinal roots;
providing operating power to the stimulator;
using an external appliance to transmit stimulation parameters to the stimulator;
receiving the stimulation parameters at the stimulator;
generating stimulation pulses in accordance with the stimulation parameters, which pulses are generated by the stimulator;
delivering stimulation pulses via the stimulator to the at least one of the spinal roots influencing blood circulation as a treatment for PVD or angina.

13. The method of Claim 12 further comprising delivering stimulation pulses to at least one of the lumbar dorsal roots, lumbar ventral roots, sacral dorsal roots, and sacral ventral roots as a treatment for PVD of at least one lower limb.

14. The method of Claim 12 further comprising delivering stimulation pulses to at least one of the cervical dorsal roots, cervical ventral roots, thoracic dorsal roots, and thoracic ventral roots as a treatment for PVD of at least one upper limb.

15. The method of Claim 12 further comprising delivering excitatory stimulation pulses to increase peripheral blood circulation as a treatment for PVD.

16. The method of Claim 12 further comprising delivering stimulation pulses to at least one of the cervical dorsal roots, cervical ventral roots, thoracic dorsal roots, and thoracic ventral roots as a treatment for angina.

17. The method of Claim 16 further comprising delivering excitatory stimulation pulses to increase coronary blood circulation as a treatment for angina.

18. The method of claim 12 wherein the implantable stimulator further comprises at least one sensor and the method further comprises sensing at least one condition of the patient.

19. The method of claim 18 wherein the at least one sensed condition is used to adjust the stimulation parameters.

20. The method of Claim 12 further comprising
providing at least one sensor;
using the at least one sensor to sense a physical condition; and
adjusting the stimulation parameters based on the sensed condition.